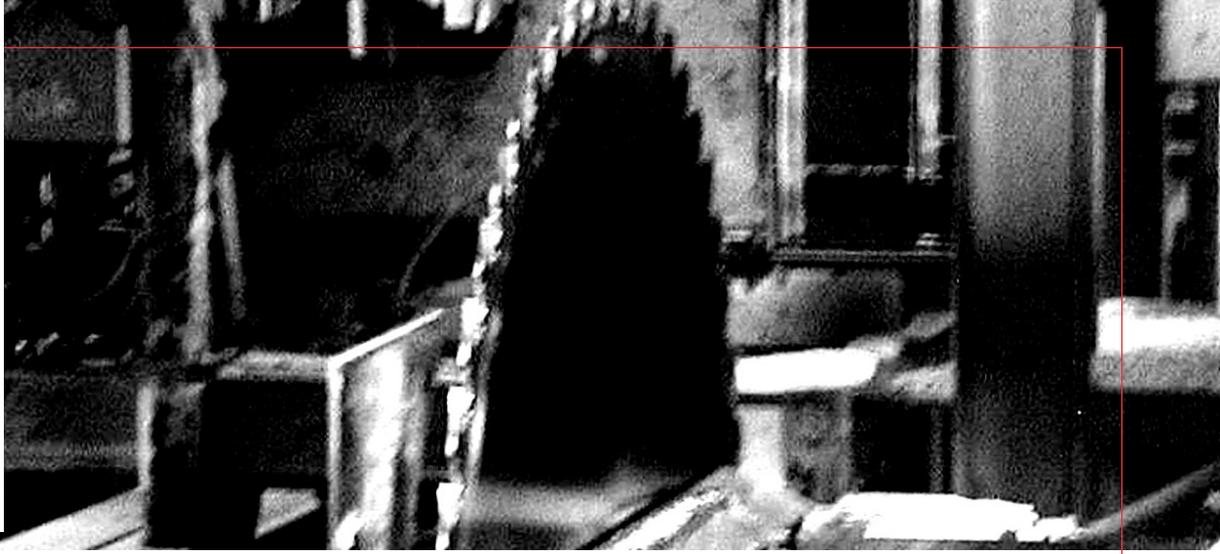


SAWMILL FORUM

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Sometimes my circular saw just doesn't seem to run properly no matter who hammered it or when it was done. Where do I start? What are the first things to check so that I can quickly get back to sawing?

The three most important things to check first when having saw trouble are sharpening, sharpening, and sharpening. Or should I say the bits, the bits, and the bits. It seems so simple to sharpen bits on an inserted tooth saw as compared to the teeth on a solid tooth saw or a band saw. Yet it still seems to be a constant battle in many mills. There are a number of things that should be looked at closely when inspecting the bits.

1. Are they sharp enough?
2. Is the cutting edge absolutely square? (perpendicular to the blade)
3. Is the cutting edge straight or curved?
4. Is there enough side clearance?
5. Are the side clearances equal from one side to another?
6. If swaged, is the cutting edge tipped up or down?
7. Is the bit mismanufactured so that it has more material on one side than the other?
8. Is the hook angle correct?
9. Is the cutting edge chipped?
10. Are the bits slightly missing their corners on one side?

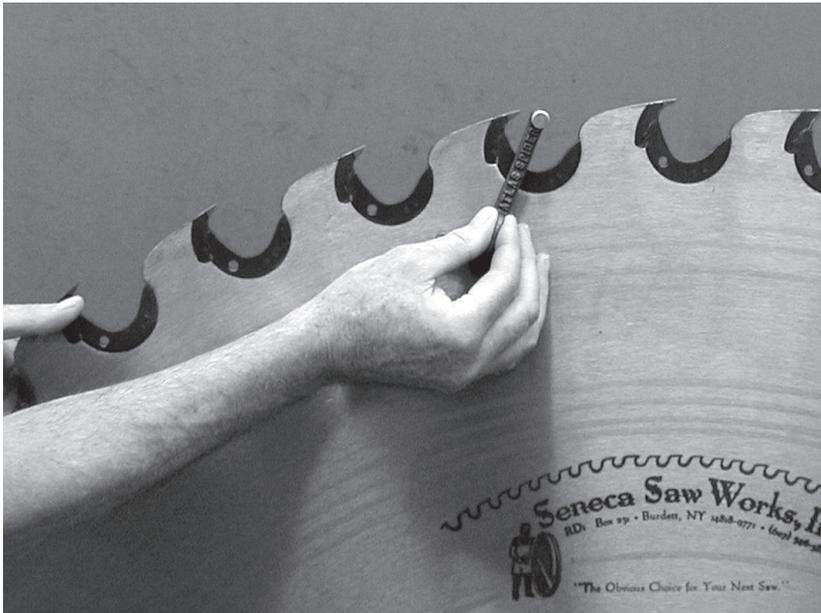
1. One rule is to always sharpen anything that needs to be sharpened, before it gets dull.
2. There are many ways to check squareness of the bit. Look at the cutting face of the bit. You will see the cutting edge and then you will see a straight line at the bottom of the cutting face. The line of the cutting edge should look absolutely parallel to the line at the bottom of the cutting face. You can also hold the body (not edge) of a 12" straight edge flat against the cutting edge of the bit. Then look for identical angles between the straightedge and each side of the bit. You can also use a small mirror. Put the face of the mirror flat against the cutting edge of the bit. Now from behind the blade, sight through the next three bits to the mirror and look for the reflection.

If you see more of one side of the blade than the other, either you are standing off to one side or the cutting edge is not square to the saw. If all you see in the mirror is the reflection of the bit immediately behind the one you are checking, then you have a square bit.

3. To look for a curved cutting edge, just hold the body of a straight edge against the cutting edge and see and feel if it rocks at all or sits real flat.
4. Side clearance can be easily checked with a spider gauge.
5. Equality of side clearance should also be checked with a spider gauge.
6. Use the edge of a straightedge from front to back on the top of the bit to look for a tipped up or down edge.
7. Use your spider gauge near the back of the bit to first see that the bit body is centered and then move it slightly forward to pick up the beginning of the side of the bit to look for equality from side to side.
8. Check the hook angle by comparing it to the hook angle of a new bit. Although a new bit can be mismanufactured, I haven't seen any trouble with the hook angle on a new bit.
9. Try putting on your glasses for a change to inspect the cutting edge for chips.
10. The same goes for looking for missing corners.

There are a lot of things that can be wrong, worn, or out of adjustment in any sawmill. During any troubleshooting session it is important to have a complete list of things to check and then systematically go through and check everything in the mill from top to bottom. I am also aware that there are times when you just have to make a quick check because you may not have the luxury of having enough time to do a complete check. Even if you solve today's problem right away, do schedule some time when you can to go through and completely check out every aspect of the mill from top to bottom to look for possible trouble spots.

Don't assume that just because you corrected the problem for now, that there is nothing else that needs to be adjusted or rebuilt in the rest of the mill.



Checking bits with a spider gauge.

Questions about sawmills and their operation should be sent to Forum, The Northern Logger, P.O. Box 69, Old Forge, NY 13420, FAX #315-369-3736.

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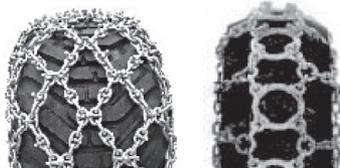
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